



RESERVOIRS MANAGEMENT PLAN

June, 1992

Revised and Approved by the Mayor and City Council November 7, 2002

Revised and Approved by the Mayor and City Council December 1, 2003

**RESERVOIRS MANAGEMENT PLAN
CARROLLTON, GEORGIA**

INTRODUCTION

The City of Carrollton operates three (3) water storage reservoirs, which can be used to supplement stream flows and water supplies. All three (3) reservoirs, Lake Buckhorn on the Little Tallapoosa River, Lake Carroll on Curtis Creek, and the Sharpe Creek Impoundment are located upstream of the City's water supply intake in the Little Tallapoosa drainage basin. In order to protect the water quality of the reservoirs for drinking purposes, this reservoirs management plan has been prepared to address the recreational uses and buffer maintenance of the three (3) reservoirs.

The Plan provides information on the restrictions for recreational uses including swimming, fishing, boating, docks and public access. Requirements for the maintenance of a minimum buffer distance and activity within the buffer zone are also furnished. Since the three (3) reservoirs were placed in use at different times over the twenty (20) years, use restrictions vary with each reservoir and therefore, information is presented separately for each reservoir.

Under normal weather conditions, the reservoirs should remain near the full pool level. However, during extremely dry weather and drought conditions, the City will implement reservoir operation that may alter reservoir levels significantly. The operation of the reservoirs to supplement the City water supply involves a coordinated effort at all three (3) reservoirs. A full description of the reservoir operation is presented in the attached **Appendix A, "Low Flow Monitoring Plan"**.

LAKE BUCKHORN

The use of Lake Buckhorn as a water supply reservoir for the City of Carrollton was arranged through the U.S. Dept of Agriculture, Soil Conservation Service during the dam construction in the mid 1960's. An agreement was reached to allow the top 10 feet of water volume in the reservoir to be used for supplementing City water supplies. Because of the SCS involvement and the lack of specific regulatory rules at the time, the City did not own the reservoir land and did not exercise any regulations on the other uses of the reservoir. This arrangement continues to the present time. Therefore, the City has no restrictions on the recreational uses of the reservoir and does not control a buffer strip around the reservoir.

LAKE CARROLL

Lake Carroll is a water supply reservoir and recreational facility in the city limits that has been used since the 1960's. The City does not own any lake property or exercise any easement conditions around the reservoir. The City does enforce recreational use restrictions on the lake through the Parks, Recreation, and Cultural Arts Department of the City. The restrictions are presented in **Appendix B, "Lake Carroll Reservoir Restrictions"**.

SHARPE CREEK IMPOUNDMENT

The construction of the Sharpe Creek Impoundment was completed in early 1992 and is controlled by the City of Carrollton through the purchase of the reservoir land and easements along the reservoir boundary.

Restrictions on the recreational use of the reservoir and the maintenance of a buffer distance around the boundary are described in **Appendix C, “Sharpe Creek Reservoir Restrictions”**.

APPENDIX A
LOW FLOW MONITORING PLAN

TO

RESERVOIRS MANAGEMENT PLAN
CARROLLTON, GEORGIA

LOW FLOW MONITORING PLAN
CITY OF CARROLLTON, GEORGIA

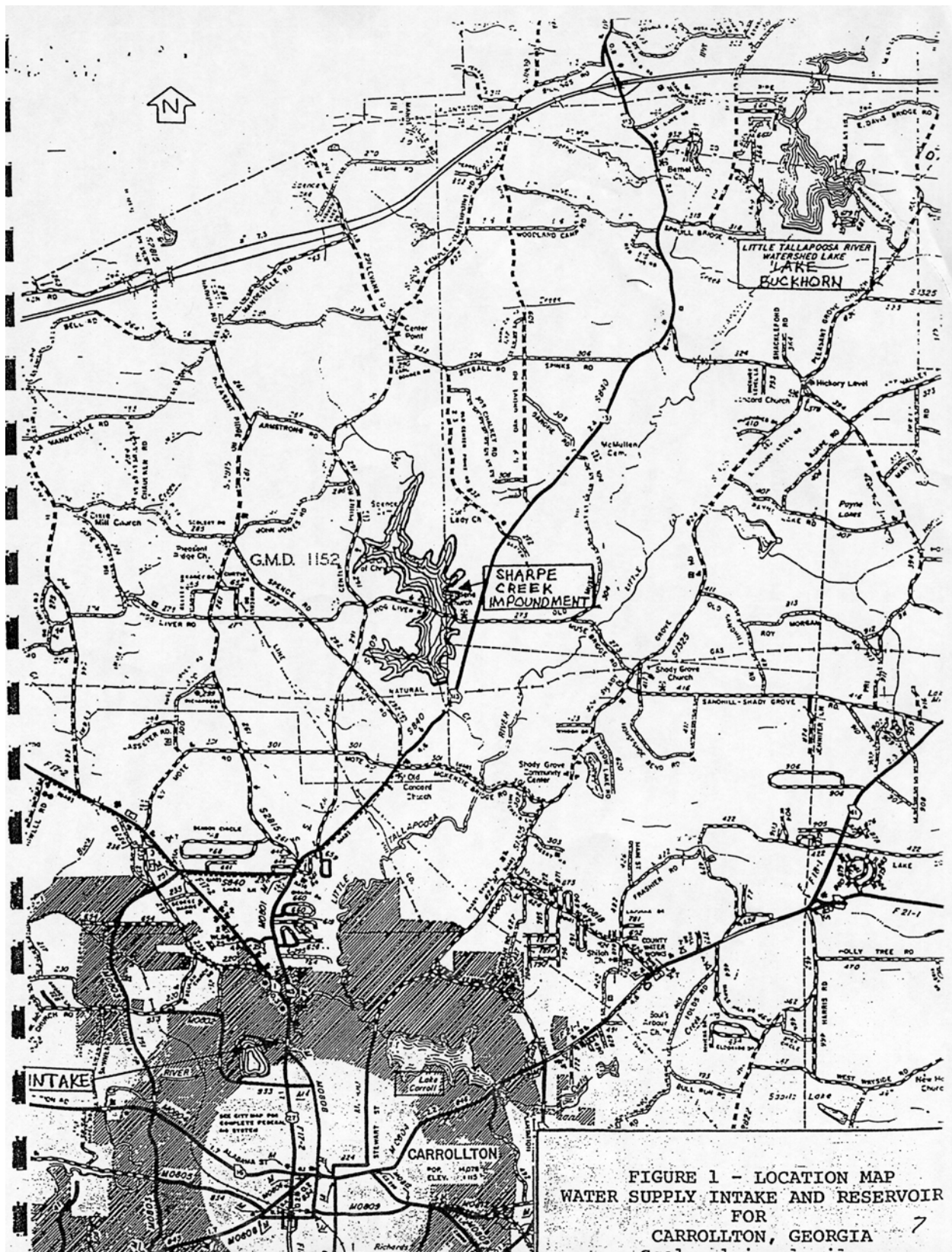
Purpose and Scope

During dry weather drought conditions, the City must be prepared to monitor and adjust its water supply withdrawal and production facilities to maintain a required minimum flow in its supply source, the Little Tallapoosa River. In addition, the City must maintain a required minimum flow in the streams below its three (3) raw water reservoirs located upstream of the plant withdrawal on the river. These streams are Curtis Creek for Lake Carroll, Sharpe Creek for the Sharpe Creek Impoundment, and the Little Tallapoosa River for Lake Buckhorn. This plan was prepared as a guidance and procedural document to assist City personnel in performing the monitoring and adjustment activities.

Existing Facility Descriptions

The City's water treatment facility obtains its raw water supply from a pump station structure withdrawing directly from the Little Tallapoosa River at the plant. Pump Operations are manually controlled by the plant operators. As water is pumped to the plant, the Little Tallapoosa River flow is correspondingly decreased. Currently capacity of each of the three (3) pumps at the station is 2,800 gpm or 4.0 mgd. The location is shown on the attached **Figure 1, Location Map**.

Additional raw water storage capacity for the City is available from three (3) upstream reservoirs on tributary streams to the Little Tallapoosa River. Refer to the attached **Location Map**.



The volume of the Sharpe Creek Impoundment and Lake Carroll reservoirs is reserved for use by the City to supplement its raw water supply requirements during low flow, drought periods. The top ten (10) feet of Lake Buckhorn volume is available for similar use by the City. The total volume available is approximately 5,519 acre-feet or 1,798 million gallons.

The Sharpe Creek Impoundment contains a concrete overflow weir structure with three (3) sluice gate draw off gates at various depths of the reservoir. A bottom 36-inch sluice gate allows draining of the reservoir. A general plan of the dam facilities is shown in **Figure 2**. The reservoir discharge can be measured directly using the 36-inch wide partial flume on the downstream side of the dam. A depth and discharge table for the flume is attached on **Table 1**. Protection of the 7Q10 flow in Sharpe Creek (0.4 cfs) is provided by an orifice in the bottom section of the overflow structure. The 3-inch orifice should remain permanently open to allow continuous flow downstream.

Lake Carroll does not have facilities for multiple level draw off. The City must use a portable pump with suction and discharge hose and place the equipment on the dam berm so that the pump discharge flow extends to downstream Curtis Creek. A pumping capacity of approximately 1,600 gallons per minute should be provided.

Lake Buckhorn on the Little Tallapoosa River has a concrete overflow structure and two (2) 24-inch square sluice gate draw off gates at different levels. The structure is shown on the attached **Figure 3**. A bottom 48-inch sluice gate allows draining of the reservoir. Discharge flows from the open sluice gates is estimated from the water surface elevation above the sluice gate and the percent open area of the gate. The formula and procedure is described in **Figure 4**.

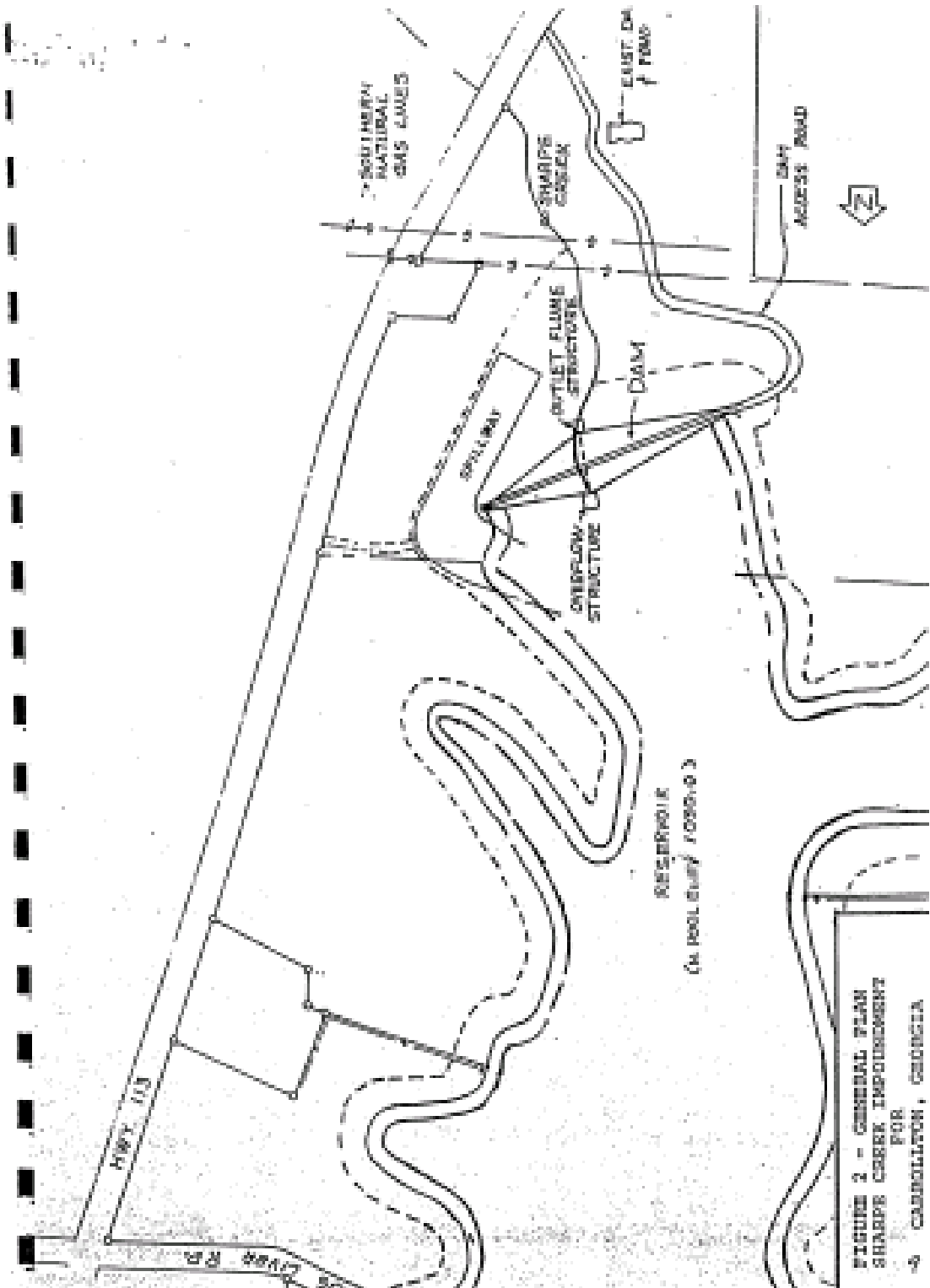


TABLE 1 - DEPTH VS DISCHARGE
OUTLET PARSHALL FLUME (3 FT WIDE)
SHARPE CREEK IMPOUNDMENT - CARROLLTON, GEORGIA

FORMULA:
 $CFS = 4.48 W^{1.522} (H^0.026)$
 $HGD = CFS^{0.6463}$

DEPTH (FT)	FLOWRATE CFS	HGD	DEPTH (FT)	FLOWRATE CFS	HGD	DEPTH (FT)	FLOWRATE CFS	HGD	DEPTH (FT)	FLOWRATE CFS	HGD
0.01	0.0089	0.0057	0.51	4.1803	2.7017	1.01	12.1885	7.8774	1.51	22.8811	14.7881
0.02	0.0262	0.0169	0.52	4.3094	2.7851	1.02	12.3780	7.9999	1.52	23.1189	14.9417
0.03	0.0495	0.0320	0.53	4.4399	2.8695	1.03	12.5686	8.1231	1.53	23.3575	15.0960
0.04	0.0776	0.0502	0.54	4.5718	2.9547	1.04	12.7602	8.2469	1.54	23.5970	15.2508
0.05	0.1101	0.0711	0.55	4.7050	3.0409	1.05	12.9529	8.3714	1.55	23.8375	15.4061
0.06	0.1464	0.0946	0.56	4.8397	3.1279	1.06	13.1466	8.4966	1.56	24.0787	15.5621
0.07	0.1864	0.1205	0.57	4.9757	3.2158	1.07	13.3413	8.6225	1.57	24.3209	15.7186
0.08	0.2298	0.1485	0.58	5.1131	3.3046	1.08	13.5371	8.7490	1.58	24.5640	15.8757
0.09	0.2763	0.1786	0.59	5.2519	3.3943	1.09	13.7339	8.8762	1.59	24.8079	16.0333
0.10	0.3259	0.2106	0.60	5.3919	3.4848	1.10	13.9318	9.0041	1.60	25.0527	16.1915
0.11	0.3784	0.2445	0.61	5.5333	3.5762	1.11	14.1306	9.1326	1.61	25.2983	16.3503
0.12	0.4336	0.2802	0.62	5.6760	3.6684	1.12	14.3305	9.2618	1.62	25.5448	16.5096
0.13	0.4915	0.3177	0.63	5.8201	3.7615	1.13	14.5314	9.3916	1.63	25.7922	16.6695
0.14	0.5520	0.3568	0.64	5.9654	3.8554	1.14	14.7333	9.5221	1.64	26.0404	16.8299
0.15	0.6150	0.3975	0.65	6.1120	3.9502	1.15	14.9362	9.6533	1.65	26.2895	16.9909
0.16	0.6804	0.4397	0.66	6.2599	4.0458	1.16	15.1401	9.7851	1.66	26.5395	17.1525
0.17	0.7481	0.4835	0.67	6.4091	4.1422	1.17	15.3450	9.9175	1.67	26.7903	17.3146
0.18	0.8182	0.5288	0.68	6.5595	4.2394	1.18	15.5509	10.0506	1.68	27.0420	17.4772
0.19	0.8905	0.5755	0.69	6.7112	4.3375	1.19	15.7578	10.1843	1.69	27.2945	17.6404
0.20	0.9650	0.6237	0.70	6.8642	4.4363	1.20	15.9657	10.3186	1.70	27.5478	17.8042
0.21	1.0416	0.6732	0.71	7.0184	4.5360	1.21	16.1745	10.4536	1.71	27.8020	17.9685
0.22	1.1203	0.7241	0.72	7.1738	4.6364	1.22	16.3844	10.5892	1.72	28.0571	18.1333
0.23	1.2011	0.7763	0.73	7.3305	4.7377	1.23	16.5952	10.7255	1.73	28.3130	18.2987
0.24	1.2839	0.8298	0.74	7.4883	4.8397	1.24	16.8070	10.8623	1.74	28.5697	18.4646
0.25	1.3687	0.8846	0.75	7.6474	4.9425	1.25	17.0197	10.9998	1.75	28.8273	18.6311
0.26	1.4554	0.9406	0.76	7.8077	5.0461	1.26	17.2334	11.1380	1.76	29.0857	18.7981
0.27	1.5440	0.9979	0.77	7.9692	5.1505	1.27	17.4481	11.2767	1.77	29.3449	18.9656
0.28	1.6345	1.0564	0.78	8.1319	5.2556	1.28	17.6637	11.4161	1.78	29.6049	19.1337
0.29	1.7268	1.1160	0.79	8.2957	5.3615	1.29	17.8803	11.5561	1.79	29.8658	19.3023
0.30	1.8210	1.1769	0.80	8.4608	5.4682	1.30	18.0979	11.6967	1.80	30.1275	19.4714
0.31	1.9169	1.2389	0.81	8.6270	5.5756	1.31	18.3164	11.8379	1.81	30.3901	19.6411
0.32	2.0146	1.3021	0.82	8.7944	5.6838	1.32	18.5358	11.9797	1.82	30.6534	19.8113
0.33	2.1141	1.3663	0.83	8.9629	5.7927	1.33	18.7562	12.1221	1.83	30.9176	19.9821
0.34	2.2153	1.4317	0.84	9.1326	5.9024	1.34	18.9776	12.2652	1.84	31.1826	20.1533
0.35	2.3182	1.4982	0.85	9.3035	6.0128	1.35	19.1998	12.4088	1.85	31.4484	20.3251
0.36	2.4227	1.5658	0.86	9.4754	6.1240	1.36	19.4230	12.5531	1.86	31.7151	20.4975
0.37	2.5290	1.6345	0.87	9.6486	6.2359	1.37	19.6471	12.6980	1.87	31.9825	20.6703
0.38	2.6368	1.7042	0.88	9.8228	6.3485	1.38	19.8722	12.8434	1.88	32.2508	20.8437
0.39	2.7463	1.7749	0.89	9.9982	6.4618	1.39	20.0982	12.9895	1.89	32.5198	21.0176
0.40	2.8574	1.8467	0.90	10.1747	6.5759	1.40	20.3251	13.1361	1.90	32.7897	21.1920
0.41	2.9700	1.9195	0.91	10.3523	6.6907	1.41	20.5529	13.2834	1.91	33.0604	21.3669
0.42	3.0843	1.9934	0.92	10.5310	6.8062	1.42	20.7817	13.4312	1.92	33.3319	21.5424
0.43	3.2000	2.0682	0.93	10.7108	6.9224	1.43	21.0113	13.5796	1.93	33.6041	21.7184
0.44	3.3174	2.1440	0.94	10.8917	7.0393	1.44	21.2419	13.7286	1.94	33.8772	21.8949
0.45	3.4362	2.2208	0.95	11.0737	7.1570	1.45	21.4734	13.8782	1.95	34.1511	22.0719
0.46	3.5565	2.2986	0.96	11.2568	7.2753	1.46	21.7057	14.0284	1.96	34.4258	22.2494
0.47	3.6784	2.3773	0.97	11.4410	7.3943	1.47	21.9390	14.1792	1.97	34.7013	22.4274
0.48	3.8017	2.4570	0.98	11.6263	7.5141	1.48	22.1732	14.3305	1.98	34.9775	22.6060
0.49	3.9264	2.5376	0.99	11.8126	7.6345	1.49	22.4083	14.4825	1.99	35.2546	22.7850
0.50	4.0526	2.6192	1.00	12.0000	7.7556	1.50	22.6443	14.6350	2.00	35.5324	22.9646

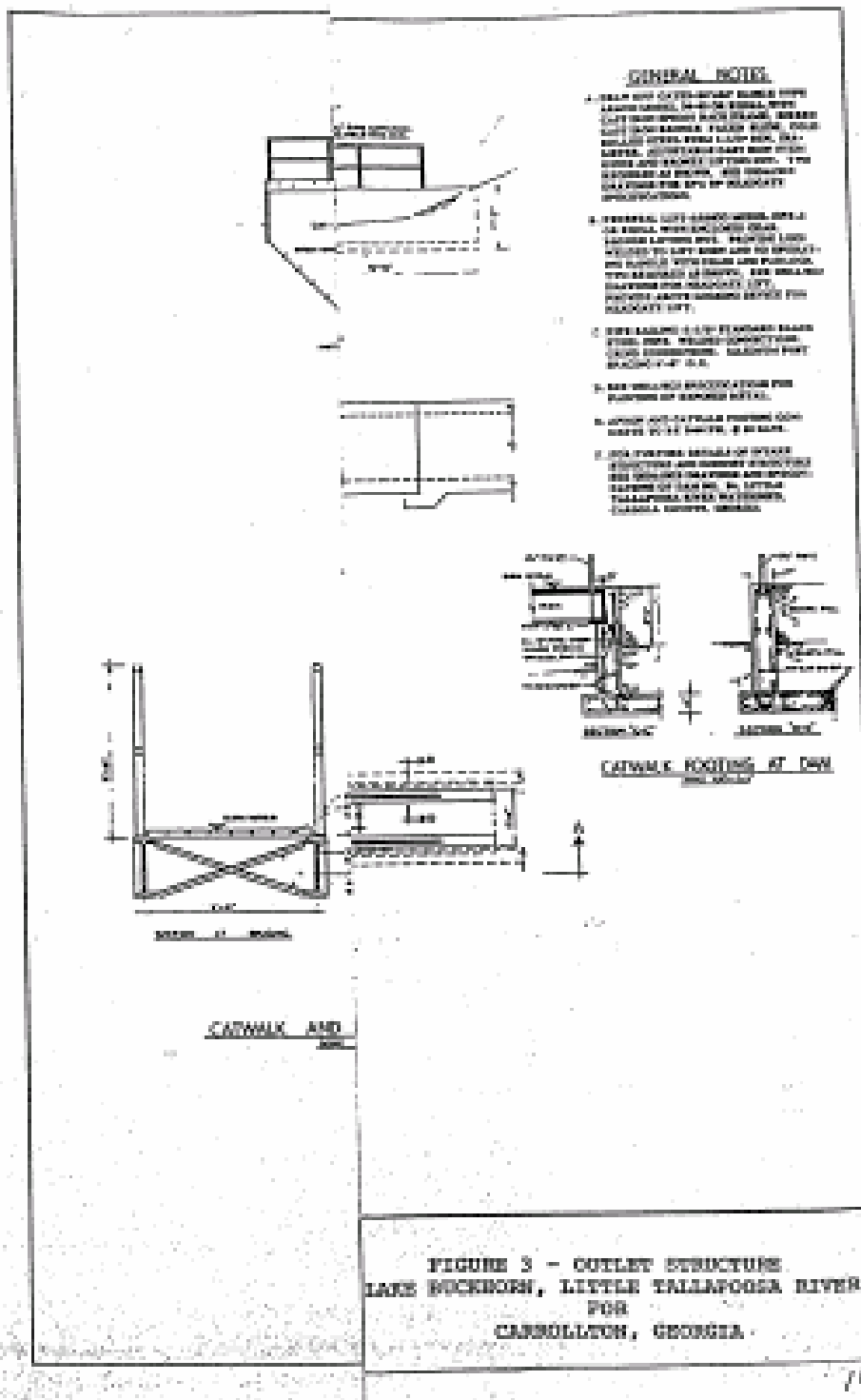


FIGURE 4
LAKE BUCKHORN FLOW ESTIMATING

1. Existing withdrawal structure information:
 Reservoir normal pool elevation = 1030.0
 Upper 24"x24" gate invert elevation = 1024.8
 Lower 24"x24" gate invert elevation = 1020.4
2. Formula for estimating flow:

$$Q = CA\sqrt{2gH}$$
 where Q = discharge flow, cubic feet per second
 C = 0.70, coefficient of discharge
 A = Area of opening, square feet
 H = Head in feet above centerline of opening
 g = Acceleration due to gravity = 32.2 ft./sec-sec
3. Upper gate flow at normal pool:
 $A = 2 (2) = 4.0 \text{ sq. ft.}$
 $H = 1030.0 - 1024.8 - 1.0 = 4.2 \text{ ft.}$
 $Q = 0.70 (4) \quad 2(32.2)(4.2) = 46.0 \text{ cfs} = 29.7 \text{ mgd (wide open)}$
4. Lower gate flow at normal pool:
 $A = 2 (2) = 4.0 \text{ sq. ft.}$
 $H = 1030.0 - 1020.4 - 1.0 = 8.6 \text{ ft.}$
 $Q = 0.70 (4) \quad 2(32.2)(8.6) = 65.9 \text{ cfs} = 42.5 \text{ mgd (wide open)}$
5. Actual gate operation should consist of cracking open the gate from a closed position and adjusting the opening area inch by inch to control the rate of withdrawal more precisely. Counting the number of valve handwheel operator rotations helps determine the position of the gate. The actual open area of the gate (A) should be used in the above computations to determine the flow.

Reservoir Operations

Reservoir Operations should be closely monitored as the normal dry weather months approach, and releases restricted as necessary (without driving bypass flows below 7Q10) so as to completely fill all three (3) reservoirs before entering the drought season. Since Lake Buckhorn has the largest tributary drainage basin, it should be operated as the primary impoundment, and the last reservoir to be fully filled. Lake Carroll should be drawn down as a last resort.

During the most severe drought conditions, controlled releases from all the three (3) available reservoirs are needed to supplement natural basin flows. Controlled releases may be required for a period of approximately six months.

The water treatment plant superintendent is responsible for implementation of this Low Flow Monitoring Plan. The superintendent shall assign water treatment plant personnel to perform the various tasks and supervise the monitoring and record keeping activities.

Flow Monitoring Location Description

During the drought period, it is necessary to monitor the flow rate in the Little Tallapoosa River to verify that the water system withdrawal rates do not lower the river flow rate below a minimum level. This minimum acceptable flow rate is the 7 Q 10 flow of 5.1 cubic feet per second (or 3.3 mgd). The flow rate monitoring shall occur at the existing low head concrete dam at the city raw water intake and pump station. The weir location and arrangement is shown on **Figure 5**. Water depth measurements are made by observation of the water depth at the weir.

The depth/discharge flow rating table in **Table 2** can be used to determine the river flow rate after withdrawal.

Monitoring of the Little Tallapoosa River flow should be scheduled and recorded to verify that river flow does not decrease below 5.1 cfs during water supply withdrawal operations. River flow measurements should be made and recorded twice per day during drought periods or when river flow approaches the above low flow range. If the measured flow is close to or below the low flow limit, City personnel should implement adjustments to the water supply withdrawal operations.

Drought Period Withdrawal Adjustments

Adjustments to the withdrawal operations are intended to permit necessary water production to satisfy customer demand while maintaining the minimum flow of 5.1 cfs in the Little Tallapoosa River. The City's raw water storage volume in the upstream reservoirs is used to supplement the river flow when the system demand causes the river flow to approach the minimum flow.

The storage volume of the three (3) reservoirs will be used at various release rates throughout a drought period. However, it is estimated during a severe drought period that the maximum release rate of Sharpe Creek Impoundment will be 6.24 mgd, Lake Carroll maximum release rate will be 2.34 mgd, and the Lake Buckhorn rate will be 5.30 mgd. For drought periods approaching the severity of the 1954 drought, it is expected that the above release rates will completely drain Lake Carroll and the Sharpe Creek Impoundment.

Based on low river flow measurements at the monitoring location, City personnel should proceed to the upstream reservoirs and begin withdrawing raw water to downstream areas. Begin reservoir

TABLE 2
LITTLE TALLAPOOSA RIVER
FLOW MONITORING

Flow over weir at Raw Water Intake Dam

HEAD (in)	FLOW	
	(cfs)	(mgd)
0.25	0.05	0.03
0.5	0.13	0.09
0.75	0.24	0.16
1.0	0.38	0.24
1.25	0.52	0.34
1.5	0.69	0.45
1.75	0.87	0.56
2.0	1.2	0.75
2.25	1.4	0.88
2.5	1.6	1.0
2.75	1.8	1.2
3.0	2.1	1.3
3.25	2.3	1.5
3.5	2.6	1.7
3.75	2.8	1.8
4.0	3.1	2.0
4.25	3.4	2.2
4.5	3.8	2.4
4.75	4.1	2.7
5.0	4.5	2.9
5.25	4.8	3.1
5.5	5.1	3.3
5.75	5.4	3.5
6.0	5.8	3.7

water withdrawal at either the Sharpe Creek Impoundment or Lake Buckhorn. Withdrawals at an initially small flow rate (0.5 to 1.0 mgd) are suggested and flows should gradually increase as the drought period continues. If the drought continues, release of flows from both reservoirs at the same time may be necessary. Release of flows from Lake Carroll should proceed only after the volume in the other two (2) reservoirs is significantly reduced and the drought period shows no signs of ending.

After the upstream reservoir withdrawal operation has continued for several hours, measure the river flow at the monitoring location to verify the increased river flow above the low flow level. Continue the reservoir withdrawal and flow monitoring activities until customer demand decreases and water production decreases or until drought conditions dissipate.

If the drought period continues for several weeks, the City personnel should also be prepared to strongly enforce provisions of the City's Water Conservation Plan. In particular, water use priorities, as outlined in the Plan, should be initiated.

APPENDIX B
LAKE CARROLL RESERVOIR RESTRICTIONS

TO

RESERVOIRS MANAGEMENT PLAN
CARROLLTON, GEORGIA

CARROLLTON PARKS, RECREATION, AND CULTURAL ARTS DEPARTMENT RULES AND REGULATIONS FOR LAKE CARROLL

The following rules and regulations are official City of Carrollton Code Articles. Refer to City Code Book, Chapter 17. (Revised and approved February 8, 1999)

PROVISIONS: Except as provided in this section and in this article, all federal and state laws regarding watercrafts and water safety are adopted and shall govern the use and enjoyment of Lake Carroll.

1. It shall be unlawful for any person to operate a watercraft on Lake Carroll without obtaining a permit, the price of which shall be as set forth in the schedule of fees and charges. Permits are issued by the CPRCAD. Call 770-832-1161 for a permit application.
2. All watercraft permits will expire on December 31 of the current year. Boating permit fees are as follows.

Resident of Carrollton Permit (Resident is defined as any person having real estate on the city tax digest)

Boating (skiing, fishing, etc.)	\$50.00
Sailing	\$20.00
Personal Watercraft (PWC) (jet skis, jet boats, etc.)	\$50.00
Non-fuel Powered Watercraft (electric trolling motors, kayaks, canoes, john boats, etc.)	\$15.00
Pontoon Boats	\$50.00

Non-resident Boating Permit (proof will be state boat registration and the owner's driver's license).

Boating	\$200.00
Boating (max. 3 day permit)	\$10.00 per day

*Three day boating permits can only be purchased by person living outside the Carroll County boundaries. Three day permits may be purchased more than one time per year.

Business and Commercial Permit Resident	\$50.00
Non Resident Business (personal ski boat, etc.)	\$65.00

3. Maximum watercraft length shall be no more than 16 feet 11 inches (measured end to end).
4. Motor horsepower shall be limited to the size specified by the original factory installed capacity plate on the watercraft.
5. No inboard motors are permitted on the lake, only single gasoline motors of outboard style and jet powered types (PWC's) are permitted on the lake.
6. No changing of capacity plates or cowlings of outboard motors will be permitted.
7. The speed limit of watercraft shall be 30 miles per hour.
8. Watercraft not identified in this article will not be permitted on Lake Carroll.
9. The Carrollton Parks, Recreation, and Cultural Arts Commission will provide a Lake Patrolman from April to September. Normally, the patrolman will be on duty from 1:00 p.m. until sundown.

10. All watercraft placed in the lake for the first time shall be inspected by the Lake Patrolman and shall be entered at the public dock. Watercraft thus entered, may be removed from the lake to lake front lots or for temporary storage. No boat may be entered into the lake or removed at any location other than the public dock, except watercraft which have been inspected and approved by the Lake Patrolman and specific approval given to remove and enter the lake from any location other than the public dock.
11. Any size watercraft or rig that is judged unsafe may be prohibited by the Lake Patrolman.
12. The Patrolman at Lake Carroll shall have the authority to restrict the number of watercraft operating on Lake Carroll to 15.
13. It shall be unlawful for a person who has temporary or permanent responsibility of a child, ward, or guest to allow the child, ward, or guest to violate any of the requirements listed within this article.
14. Violators of this article shall upon conviction be punished as provided in Section 1-11 of city code.

MINIMUM AGE AND REQUIREMENTS FOR WATERCRAFT OPERATION

1. A person under age 12 MAY NOT operate a personal watercraft (PWC).
2. A person under age 12 may operate a Class A vessel (16 feet or less) with a 30 horsepower or less motor if they are accompanied by an adult 18 years or older who is not under the influence of alcohol or drugs.
3. A person age 12-15 may operate in Georgia a Class A vessel with a 30 H.P. or less motor or a PWC only if they have completed a Georgia Department of Natural Resources approved Boating and Personal Watercraft Safety and possess proof on board.
4. A person age 14-15 may operate a Class A or Class 1, 2, or 3 vessel only if they have completed a Department of Natural Resources approved Boating Safety Course and they possess proof on board.
5. A person age 16 or older may operate any vessel or a PWC provided they are carrying proper identification on board.

MANNER OF BOAT OPERATION

1. Watercrafts shall operate in one direction, i.e. counter clockwise, and all recognized water and watercraft laws shall be enforced. There shall be two people in or on watercrafts pulling skiers or any other apparatus, of which, one will be a competent observer.
2. No person shall operate any watercraft or manipulate any other recreational water devices in a reckless or negligent manner so as to endanger the life, limb, or property of any person.

LIFE PRESERVERS

It shall be unlawful for any minor under the age of 10 to ride in any boat on Lake Carroll without wearing a Coast Guard approved personal flotation device. Any person/persons being pulled behind a watercraft must wear an approved Coast Guard flotation device.

SPEED NEAR PIERS, PERSONS, ETC.

Watercrafts must operate at idle speed within 100 feet of any moored or anchored vessel, vessel adrift, or any wharf, pier, piling, or person in the water, or shoreline adjacent to a full-time or part-time residence, public park, public beach, public swimming area, marina, restaurant, or other public use area.

HOURS FOR OPERATION OF BOATS

It shall be unlawful for any person to operate a boat on Lake Carroll before sunrise or after sunset.

OPEN EXHAUSTS PROHIBITED

It shall be unlawful to operate a motor on Lake Carroll with an open exhaust.

SWIMMING RESTRICTED

No swimming will be allowed in or around the public areas of Lake Carroll (spillway, dam, or launch area).

ALCOHOLIC BEVERAGES AND DRUGS

It shall be unlawful for any person to operate any watercraft while under the influence of alcohol or drugs. It is unlawful, as well, to possess any alcohol or drugs on any public grounds or facility that is owned, maintained, and operated by the City of Carrollton.

PONTOON BOATS AND PERSONAL WATERCRAFT (JET SKIS, JET BOATS, ETC.)

1. Pontoon Boats
 - a. Description: A boat floated by two round bullet shaped pontoons.
 - b. No inboard motors.
 - c. When the lake is crowded with faster boats, the Lake Patrolman or official may restrict the pontoon boats. This may mean the pontoon boats are not permitted on the lake at times.
 - d. Pontoon boats may not exceed 24 feet in length (measured end to end on the pontoon).
 - e. The H.P. of motors powering pontoons will be governed by the capacity plate on the boat.
 - f. Sleeping or camping on pontoons on Lake Carroll will not be permitted.
 - g. Pontoons are also governed by all Lake Carroll Rules and Regulations and Georgia Safe Boating Guidelines.
2. Personal watercraft (jet skis, jet boats, etc.)
 - a. Personal watercrafts (PWC) are governed by all Lake Carroll Rules and Regulations and Georgia Safe Boating Guidelines.

FISHING FROM THE BANK, OR IN POTHOLE

No permit shall be required to fish from the banks of Lake Carroll or in the pothole (area below the dam).

BAG LIMITS FOR FISH

Game species, daily creel and possession limits will be governed by the current Georgia freshwater and saltwater fishing regulations.

PERMIT REQUIRED TO ALTER SHORELINE OR CONSTRUCT DOCKS, PIERS, OR BOATHOUSE. CALL CITY BUILDING OFFICIAL AT 770-830-2000.

The shoreline of Lake Carroll shall not be altered or changed in any manner, whatsoever, without written consent and a permit granted by the Building Official at City Hall. The authorization and permit will not be unreasonably withheld where the alteration does not hinder or interfere with the use and purpose of the lake and the alteration does not, in the opinion of the City Building Official, adversely affect adjoining property owners. The City Building Official may make his permit or authorization conditional upon any terms which are consistent with the purpose and intention of this section. A fee as set forth in the schedule of fees and charges, in addition to any other building permits or fees required, shall be charged (fee schedules can be obtained at City Hall).

- Private docks, boathouses, piers, or related structures are permitted, provided that: A plan of the proposed structure showing the size, location, construction materials, use, design, and other pertinent factors which may be reasonably and appropriately applied to protect the water quality of the Reservoir is submitted to the Building Official for review, approval, and issuance of a permit;
- In addition to approval by the City Building Official, the dock, boathouse, pier or related structure must meet all applicable provisions of the City of Carrollton Zoning Ordinance and the owner obtains a valid building permit as required by law or regulation;

The City Building Official or other designated representative of the City is provided access to conduct inspections of the structure during construction and periodically thereafter;

- No more than one structure per parcel fronting on the lake, but no more than one structure per 100 feet of shoreline;
- No dock, piers, or related structures may extend further than 20 feet from the shoreline into the lake.
- Boathouses must be dug back into the lake front owner's property so as not to extend out into the water.

The cost and liability of constructing a private dock, pier, or boathouse shall be borne entirely by the owner of the property. The City assumes no responsibility or liability for the integrity, soundness, structure or material used.

The City reserves the right to require that docks, piers, or boathouses be moved, relocated or removed from the reservoir at the property owners expense upon reasonable request at any time for purposes of maintaining water quality.

All maintenance of private docks, piers, or boathouses shall be the responsibility of the owner. If a dock becomes damaged or is deemed in the reasonable opinion of the City unsuitable for the reservoir, the dock, pier, or boathouse must be removed from the reservoir at the owner's expense.

The City reserves the right to remove the dock, pier, boathouse from the reservoir at the owner's expense and without liability for damage to the dock or the owner's private property if the owner fails to comply with the City rules, regulations, and directions.

No cleaning of docks, decking, piers, boathouses or boats moored at same with soaps or solvents is permitted.

APPENDIX C
SHARPE CREEK RESERVOIR RESTRICTIONS

TO

RESERVOIRS MANAGEMENT PLAN
CARROLLTON, GEORGIA

CITY OF CARROLLTON SHARPE CREEK RESERVOIR

Purpose and Policy

The purpose of this section is to establish reasonable regulations for the protection of water quality of the Sharpe Creek Reservoir and to provide for limited recreational activity on it.

Uses of the Reservoir

The sole public purpose of the Sharpe Creek Reservoir is as a water storage impoundment for the City of Carrollton Water System. Consequently, water will periodically be drawn from the reservoir during periods of drought and / or high demand in accordance with the City's Reservoir Management Plan and the level of the water pool will fluctuate accordingly.

Recreational activity (boating, fishing, swimming) shall be limited to owners of private property abutting the reservoir, their immediate families and guests. There is no general public access for recreation purposes available, planned or contemplated by the City. No commercial use of any type, for any purpose is permitted.

For any changes in land use on properties adjacent to Sharpe's Creek Reservoir after December 1, 2003, the following items shall be prohibited to protect the water quality of the reservoir for drinking purposes to the extent there is not legally binding commitments or agreements between the City of Carrollton and said properties: swimming, boat docks, boat ramps, piers and boathouses.

One Hundred Foot Permanent Perpetual Easement

Each property owner with property abutting the reservoir shall be subject to the provisions of the 100' permanent, perpetual easement on that portion of the property which lies between mean sea level 1030 to a point 100' horizontally from mean sea level 1034.5. Each deed contains the following language describing the conditions of the easement:

The easement area is for the purpose of storing flood waters up to elevation 1034.5 and protecting the environmental purity of the lake known as Sharpe Creek Reservoir to be constructed thereon or the land may not be cultivated or grazed or fences erected thereon without written approval of Grantee's representative. No growing trees may be removed without written approval of Grantee's representative. Grantor or their assigns may construct upon the easement area or upon the area conveyed herein a boathouse, dock or pier; however, the same shall be constructed and maintained in accordance with regulations as established and maintained by Grantee which shall include limitation as to number, size, site, location, construction material, use, design and other pertinent factors, all of which will be reasonable and appropriately applied to protect the water quality of the Sharpe Creek Reservoir.

No permanent structures of any type (except private docks, boathouses, piers or related structures) or any septic system including drain field lines, sewer, fuel storage or similar items / systems, etc. will be permitted within the 100' easement area.

Docks, Piers and Boathouses

Private docks, boathouses, piers or related structures are permitted within the 100 foot easement area provided that:

- A plan of the proposed structure showing the size, location, construction materials, use, design and other pertinent factors which may be reasonably and appropriately applied to protect the water quality of the Reservoir is submitted to the City Engineer for review, approval and issuance of a permit;
- In addition to approval by the City Engineer the dock, boathouse, pier or related structure must meet all applicable provisions of the Carroll County Building Code / Zoning Ordinance and the owner obtains a valid building permit as required by law or regulations;
- The City Engineer or other designated representative of the City is provided access to conduct inspections of the structure during construction and periodically thereafter;
- No commercial docks, boathouses, piers or related structures will be permitted;
- No more than one structure per parcel fronting on the lake, but no more than one structure per 100 feet of shoreline;
- No dock, boathouse, piers or related structures may extend further than 20 feet from the shoreline into the lake.

The cost and liability of constructing a private dock, pier or boathouse shall be borne entirely by the owner of the property. The City assumes no responsibility or liability for the integrity, soundness, structure or materials used.

The City reserves the right to require that docks, piers or boathouses be moved, relocated or removed from the reservoir at the property owners expense upon reasonable request at any time for purposes of maintaining water quality.

All maintenance of private docks, piers or boathouses shall be the responsibility of the owner. If a dock becomes damaged or is deemed in the reasonable opinion of the City unsuitable for the reservoir, the dock, pier or boathouse must be removed from the reservoir at the owner's expense.

The City reserves the right to remove the dock, pier, boathouse from the reservoir at the owner's expense and without liability for damage to the dock or the owner's private property if the owner fails to comply with the City's rules, regulations and directions.

No cleaning of docks, decking, piers, boathouses or boats moored at same with soaps or solvents is permitted.

Swimming / Wading

Swimming and/ or wading shall be permitted in the reservoir by property owners, their immediate families and guests only, with property abutting the reservoir.

There shall be no swimming and / or wading before sunrise or after sundown.

All swimming and / or wading shall be at the individuals "own risk". No lifeguard service will be provided by the City.

Fishing

Fishing is permitted only from private property by private property owners with property abutting the reservoir.

All individuals fishing in the reservoir must comply with all fishing rules and regulations of the Georgia Department of Natural Resources concerning safety, license, creel limits and all other applicable requirements. Trot lines and set or bank poles are not permitted.

Fishing from roads and bridges adjacent to or over the reservoir is not permitted.

Boating

Only private owners with property abutting the reservoir shall be permitted to place boats on the Sharpe Creek Reservoir subject to the following regulations:

- Each boater must obtain an annual registration permit from the Carrollton Parks, Recreation and Cultural Arts Department. Applicants must provide verifiable proof of private property ownership abutting the reservoir;
- Use of the registered boats on the reservoir is limited to property owners with property abutting the reservoir, their immediate families and guests;
- Compliance with all federal and state laws regarding boat and water safety;
- Boats must be Class A type and no larger than 16', 11" in length (measured end to end);
- Single motor outboard style motors only;
- Motor horsepower limited to the size specified by the original capacity plate on the boat;

- No inboard motors permitted;
- No motors with open exhausts;
- No individual under the age of 16 shall operate a boat;
- The maximum speed of boats on the reservoir shall be 30 mph;
- No boat shall be operated at more than 10 mph within 50' of any dock, pier, boathouse, fisherman, swimmer or with 100' of any skier;
- No boats shall be operated before sunrise and after sunset;
- All boats shall be operated in a counter-clockwise direction;
- Two (2) persons in all boats pulling skiers;
- No person shall operate a boat or manipulate any water skis, or similar device in a reckless or negligent manner;
- No jet skis, wind surfboards or other similar motorized or non-motorized vehicles are permitted on the reservoir.

The City reserves the right to prohibit any boat and / or vehicle from the reservoir.

There is no general public access for boating permitted, planned or contemplated by the City.

Additional Restrictions on Use of the Reservoir

The following is expressly prohibited at the reservoir and reservoir property;

- The possession or consumption of alcohol, drugs or any controlled substance;
- The possession or use of fire arms, ammunition, bows and arrow, loaded projectile firing devices or explosives;
- The operation or use of any audio or noise producing devices in such a manner as to unreasonably annoy or endanger other individuals;
- Pets;
- Glass containers of any kind;
- Littering or dumping;

- Jet-skis, wind surfer boards or similar motorized or non-motorized vessels;
- Cleaning of boats with soaps or solvents;
- Boats that are not properly registered or that do not carry appropriate flotation devices;
- The discharge of any pollutant;

Restrictive Use

The City reserves the right to restrict or prevent, at any time, the use of the reservoir during periods of emergency or circumstances demanding such restrictions or preventions of use.

Damage, Trespassing

It shall be unlawful for any person to damage, tamper with, trespass, or alter any property, barricades, structures or appurtenances owned by the City.

Dam and Intake Restrictions

The dam, intake structure and immediate surrounding area are not available to private property owners and / or the public without authorization from the City. No person shall enter the restricted area, attempt to operate or tamper with said structures, physically climb or attempt to reach by shoreline such structures, or in any way attempt to manipulate water levels around said structures.

Liability

All costs and liabilities, as well as insurance requirements, are to be solely incurred by the private property owner with property abutting the reservoir authorized to use the reservoir for limited recreational activity (boating, fishing, swimming). The City shall be held harmless from any claim, costs, loss or damage the owner may have against the City arising out of or in any way connected with the use of the reservoir facility.

All users of the City's reservoir shall hold the City safe and harmless from any claim, cost, loss, damage or obligation whatsoever that arises from the use of the reservoir facility.

Violators

The City reserves the right to expel persons, either temporarily or permanently and / or revoke boating, dock, swimming, fishing or other privileges for reasons detrimental to the City or reservoir or facility including but not limited to the violation of any rule or regulation of the City and failure to follow the direction of City representatives and agents.

Nothing in these regulations shall prohibit or limit the Authority from seeking other remedies as may be provided by law.

Watershed Protection Ordinance

All property abutting the reservoir and all property delineated by ordinance is subject to the provisions of the Sharpe Creek Reservoir Watershed Protection Ordinance adopted by the Carroll County Board of Commissioners on October 25, 1990.